

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A rotating assembly in which a rotating member is fixed onto a shaft by inserting the shaft into an inner hole of the rotating member, the rotating assembly comprising:

a shaft having an insertion portion and an outer circumferential surface; and
a rotating member having an inner hole, said rotating member being fixed to said shaft by
inserting said shaft into said inner hole in an insertion direction;

wherein a diameter of the said inner hole is formed smaller than an outer diameter of
said insertion portion of the said shaft, and a plurality of grooves extending in the insertion
direction are formed disposed on one of the said inner hole and an said outer circumferential
surface of the said shaft;

wherein after the diameter of the said inner hole is expanded by heating the said rotating
member, the said shaft is inserted into the said inner hole, and said rotating member is cooled to
reduce the diameter of the said inner hole again, said one of said inner hole and said outer
circumferential surface of said shaft having said plurality of grooves presses and raises the other
of the said inner hole and the said outer circumferential surface of the said shaft is pressed and
raised by the other part and, such that said other of said inner hole and said outer circumferential
surface of said shaft enters the said plurality of grooves so that both of them are said rotating
member is fixed to said shaft and formed;

wherein said rotating member is a cam piece having an outer circumferential surface with
a portion of said outer circumferential surface of said rotating member having a cam profile, said
cam profile extending from a first location on said outer circumferential surface of said rotating
member to a second location on said outer circumferential surface of said rotating member,

wherein a large-diameter escape portion in said inner hole is disposed inward of one of
said first and second locations, and said large-diameter escape portion is configured to prevent
contact with said outer circumferential surface of said shaft when said rotating member is fixed
to said shaft,

wherein said escape portion has a circumferential length that is at least equal to a
circumferential length of two adjacent grooves of said plurality of grooves, and

wherein said plurality of grooves and said escape portion extend through an entire
thickness of said rotating member.

2-3. (Cancelled)

4. (Currently Amended) The rotating assembly according to claim 2-1 wherein a hardness of the inner hole of the cam piece is higher than ~~the~~a hardness of the outer circumferential surface of the ~~driving~~ shaft.

5-10. (Cancelled)

11. (Currently Amended) A rotating assembly comprising:

a shaft having an insertion portion, wherein ~~the~~said insertion portion ~~includes~~having an outer diameter ~~and an outer circumferential surface;~~

a rotating member having an inner hole, wherein ~~the~~said inner hole ~~includes~~having a diameter that is smaller than the outer diameter of ~~the~~said insertion portion, further wherein ~~the~~and said rotating member ~~is~~being fixed onto ~~the~~said shaft by inserting ~~the~~said shaft into ~~the~~said inner hole of ~~the~~said rotating member ~~in an insertion direction;~~ and

a plurality of grooves extending in the insertion direction, wherein ~~the~~said plurality of grooves ~~are~~being positioned on ~~at least one of the~~said inner hole ~~and an outer circumferential surface of the shaft;~~

wherein after the diameter of ~~the~~said inner hole is expanded by heating ~~the~~said rotating member, ~~the~~said shaft is inserted into ~~the~~said inner hole, and ~~said~~ rotating member ~~is~~cooled to reduce the diameter of ~~the~~said inner hole ~~again~~, wherein ~~the~~said plurality of grooves are pressed into ~~the~~said shaft so that ~~both of the~~said inner hole ~~and outer circumferential surface~~ ~~are~~is fixed to ~~said~~ outer circumferential surface of ~~said~~ insertion portion~~and formed;~~

wherein said rotating member is a cam piece having an outer circumferential surface with a portion of said outer circumferential surface of said rotating member having a cam profile, said cam profile extending from a first location on said outer circumferential surface of said rotating member to a second location on said outer circumferential surface of said rotating member,

wherein a large-diameter escape portion in said inner hole is disposed inward of one of said first and second locations, and said large-diameter escape portion is configured to prevent contact with said outer circumferential surface of said shaft when said rotating member is fixed to said shaft,

wherein said escape portion has a circumferential length that is at least equal to a circumferential length of two adjacent grooves of said plurality of grooves, and

wherein said plurality of grooves and said escape portion extend through an entire thickness of said rotating member.

12-14. (Cancelled)

15. (Currently Amended) The rotating assembly according to claim 4211, wherein a hardness of the said inner hole of the said cam piece is higher than the a hardness of the said outer circumferential surface of the driving said shaft.

16. (Currently Amended) The rotating assembly according to claim 11, wherein each of the said plurality of grooves is formed in a circular shape.

17. (Currently Amended) The rotating assembly according to claim 11, wherein each of the said plurality of grooves is formed in a triangular shape.

18. (Currently Amended) The rotating assembly according to claim 11, wherein each of the said plurality of grooves is formed in a trapezoidal shape.

19. (Currently Amended) The rotating assembly according to claim 1, wherein the each of said plurality of grooves has are structured to be at least one of a trapezoidal shape, a circular shape, and a triangular shape.